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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,673	08/31/2001	Glen Salmon	3330/55	1256

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EXAMINER	
WU, QING YUAN	
ART UNIT	**PAPER NUMBER**
2194	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/943,673	SALMON ET AL.	
	Examiner	Art Unit	
	Qing-Yuan Wu	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 and 13-33 are pending in the application.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7, 11-22, 29 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following claim language is indefinite:

i. As per claim 7, it is uncertain whether "the second thread(s)" in line 8 refers to "one or more second threads" in line 6 (i.e. if it does then said/the should be used and "the one or more second threads" must be used throughout all the claims). Claim 29 is rejected for similar reason.

ii. As per claim 11, it is uncertain whether "that connector" in line 4 refers to "a thread-dependent connector" in line 2 and "the thread-dependent connector" in

line 3; whether "the application" in lines 6 and 7 refers to "a multi-threaded application" in line 2 (i.e. if it does then said/the should be used and "the thread-dependent connector" and "the multi-threaded application" must be used throughout all the claims). Claims 21-22 and 33 are rejected for similar reason.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-11 and 13-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent 6,314,430).

7. As to claim 1, Chang teaches the invention substantially as claimed including a method for interfacing between a application and a restrictive back-end processing system, wherein the back-end processing system requires a thread-dependent connection where a relationship between a connection and an application thread is maintained, the method comprising:

maintaining a single thread to link to the detected thread-dependent connection [col. 3, lines 14-39];

correlating multiple threads from the application with the maintained single thread, thereby allowing operations requested by the application over the multiple threads to be

performed on the back-end processing system through the thread-dependent connection [col. 3, lines 35-39; col. 4, lines 29-30 and 35-36].

8. Chang does not specifically teach a multi-threaded application, and detecting a thread-dependent connection in the back-end processing system. However, Chang disclosed an application communicates a request to a server machine which in turn creates a task which invokes internal subtasks, and an application requesting connection, establishing connection, accessing, and communicating with a database [col. 2, lines 32-37; col. 4, lines 30-37; Fig. 2].

9. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that detection have to occur at the back-end processing system when a connection is requested from an application and a connection is establish to communicate with the back-end processing system and to have implement the teaching of Chang on a multithreading environment to overcome the inefficiency of having a database connection for each thread/subtask as being considered by Chang [col. 2, lines 46-60].

10. As to claim 2, this claim is rejected for the same reason as claim 1 above.

11. As to claim 3, this claim is rejected for the same reason as claim 1 above. In addition, Chang does not specifically teach allocating memory for connection instances. However, Chang disclosed a resource request and establishing a connection to the database server, to include any handshaking necessary to secure the connection [col. 1, lines 37-46], and a server machine

creating a task that instantiates the Database class to create a Database object [col. 3, lines 30-39]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that the creation of any software objects/instance would require the allocation of resources.

12. As to claims 4-5, this claim is rejected for the same reason as claim 1 above. In addition, Chang does not specifically teach reading a header data structure. However, Chang disclosed a task which invokes plurality of subtasks and a Database object establishes a single connection to the database and retains parameters that will allow for subsequent use of the database connection for the duration of the task [col. 2, lines 35-60; 160, 162, Fig. 2; col. 3, lines 35-39]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized the different abilities of different connectors in various back-end systems and include various types of interaction between the application and the database as detection for a thread-dependent connection.

13. As to claim 6, this claim is rejected for the same reason as claim 1 above.

14. As to claim 7, this claim is rejected for the same reason as claim 1 above. In addition, Chang does not specifically teach generating a plurality of simultaneous connections comprising a second thread-dependent connection, a second single thread. However, Chang disclosed a connection handle which permits subsequent use of the database connection by the task [col. 4, lines 50-51; col. 5, lines 3-6]. It would have been obvious to one of an ordinary skill in the art at

the time the invention was made, to have recognized that there can be more that one request/task accessing the database, wherein each database connection applies to the duration of a particular task as being consider by Chang.

15. As to claims 8-9, these claims are rejected for the same reason as claim 1 above.

16. As to claim 10, this claim is rejected for the same reason as claim 9 above. In addition, Chang does not specifically teach semaphores. However, it is well known in the art to use semaphores to restrict access to a share resource in a multiprocessing environment.

17. As to claim 11, this claim is rejected for the same reason as claim 1. In addition, Chang teaches the invention substantially as claimed including a thread consistency support system for providing thread consistency between a multi-threaded application and a thread-dependent connector allocated in a restrictive back-end system, wherein the thread-dependent connector only supports a single thread to link to that connector for operations on that connector and wherein the multi-threaded application creates multiple threads that attempt to access the connector [160, 162, Fig. 2], the system comprising:

an arbiter layer positioned between the application and the thread-dependent connector [180, 200, Fig. 2], the arbiter layer being configured to receive multiple threads from the application and to produce a single internal thread from the arbiter layer to the connector upon which operations of the multiple threads are performed [col. 3, lines 14-39].

18. As to claims 13-20, these are system claims for performing method claims 1-10, therefore they are rejected for the same reason as claims 1-10 above.

19. As to claim 22, this claim is rejected for the same reason as claims 1-2 above.

20. As to claim 21, this claim is rejected for the same reason as claims 11 and 22 above.

21. As to claims 23-32, these are computer-readable storing medium claims that correspond to method claims 1-10, therefore they are rejected for the same reason as claims 1-10 above.

22. As to claim 33, this is computer-readable storing medium claim that corresponds to method claim 22, therefore it is rejected for the same reason as claim 22 above.

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,596,745 to Lai et al teaches connection sharing.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qing-Yuan Wu whose telephone number is (571) 272-3776. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Qing-Yuan Wu

Examiner

Art Unit 2194

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER